REMARKS

Reconsideration And Allowance Are Respectfully Requested.

Claims 1-9, 23 and 24 are currently pending. Claim 1 has been amended. Claims 10-22 have been canceled. No claims have been added. No new matter has been added. Reconsideration is respectfully requested.

With regard to the outstanding Office Action, claim 1 has been objected to based upon informalities. These informalities have been addressed as suggested by the Examiner and Applicants respectfully request the objection be withdrawn.

With regard to the outstanding rejections, claims 1-9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,416,492 to Takahashi et al. ("Takahashi"). Claims 10-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takahashi in view of Japanese Patent Publication No. 4269001 to Iwai Masato ("Iwai"). Claims 13, 16, 18 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,002,517 to Noujeim ("Noujeim") in view of Takahashi. Claims 14 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Noujeim in view of Takahashi and Iwai. Claim 17 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Noujeim in view of Takahashi and U.S. Patent No. 5,557,286 to Varadan ("Varadan"). Claims 1 and 21-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese Patent Publication No. 2002-374123 to Yamamoto

("Yamamoto") in view of Takahashi. These rejections are respectfully traversed in view of the preceding amendments and the remarks which follow.

Claim 1 has been amended so as to substantially incorporate the limitations of claims 21 and 22 therein. Therefore, only the outstanding rejections addressing limitations of claims 21 and 22 under Yamamoto in view of Takahashi are addressed herein as the outstanding rejections of the remaining claims are deemed moot. As such, claim 1 now defines a device for controlling electromagnetic radiation emitted by a structure. The device has a first surface and a second reactive surface defining a cavity therebetween. The first surface is an equipotential surface and presents a capacitive surface impedance. The second reactive surface comprises a lattice array of conductors disposed on a dielectric surface such that the displacement between a conductor and any other conductor adjacent to it is small compared to the wavelength of the electromagnetic radiation thereby causing the array of conductors to represent an effectively continuous conductive surface to the electromagnetic radiation. A surface impedance of the second reactive surface is reactive. An emitter generating electromagnetic radiation is positioned between the first surface and the second reactive surface. The electromagnetic radiation within the cavity is radiated into the air through the second reactive surface.

In contrast to the claimed invention, and further to the reasons discussed in the prior Amendment of September 15, 2008, it is Applicants' opinion the combination of Yamamoto in view of Takahashi fails to disclose all of the elements of the claimed invention. The proposed combination fails to disclose the combination of a first surface which is equipotential and presents a

capacitive surface impedance and a second reactive surface comprising a lattice array of conductors as claimed in accordance with the present invention. Neither of the claimed first and second surfaces are disclosed nor suggested by the cited references.

In particular, the Office Action refers to Figure 1 of Yamamoto as showing an equipotential surface with references, presumably, to element 21 of Yamamoto. As those skilled in the art certainly appreciate, an equipotential surface is a surface that has the same electrical potential at all points. Applicants have reviewed Yamamoto and found no disclosure of such structure or the ability to function as a equipotential surface. As such, the mere reference to Figure 1 does not support the rejection proposed by the Examiner. With regard to the first surface presenting a capacitive surface impedance, the Examiner has indicated that the surface will inherently present a capacitive surface impedance. Once again, there is no support in the disclosure of Yamamoto for such a statement nor do the disclosure or drawings of Yamamoto support such a statement. As such, if the Examiner intends to maintain the position presented in the outstanding Office Action with regard to what is disclosed by Yamamoto specifically, the Examiner is requested to show how Yamamoto discloses such structure.

The Office Action indicates that element 21 reads upon the first surface. However, Yamamoto merely discloses surface 21 as being a cope plate conductor. There is no indication that element 21 is an equipotential surface and that it presents a capacitive surface impedance. Accordingly, it is Applicants' opinion Yamamoto fails to disclose these features. Takahashi fails to remedy this deficiency and disclose the claimed structure so as to provide support for the obvious

modification of Yamamoto so as to read upon the pending claims as suggested in the outstanding Office Action.

In addition to Yamamoto and Takahashi's failure to disclose the first surface having an equipotential surface presenting a capacitive surface impedance, there is no disclosure of a small displacement between the conductor and any other conductor adjacent thereto. This claimed structure provides for a broad radiation beam with a low gain and is neither disclosed nor suggested by either Yamamoto or Takahashi.

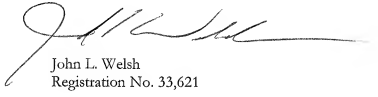
Claim 1 also requires an emitter generating electromagnetic energy radiation between the first surface and the second reactive surface. The Office Action references element 33 of Yamamoto as reading upon the emitter. However, the waveguide of Yamamoto is path 26, not the space between elements 23 and 21. There is no disclosure of an emitter generating electromagnetic radiation between elements 21 and 23. At best, electromagnetic waves leak from one surface of element 23 through the plurality of metal strips 35.

Even for the sake of argument, all the structures argued in the Office Action were in the cited references, the combination of Yamamoto and Takahashi is improper. The Office Action suggests replacing element 23 which includes metal strips 35 of Yamamoto with the lattice slot antenna 61. However, these are not equivalent structure and could not be readily replaceable. Element 23 is a dielectric substrate which functions as a transmission line. The lattice slot antenna 61 of Takahashi does not function in this manner and the replacement proposed by the Examiner would be inappropriate.

Consequently, it is Applicants' opinion the cited references do not disclose the subject matter of amended claim 1, and Applicants respectfully request the rejections relating thereto be withdrawn. As to those claims dependent upon the independent claim 1, they are also believed to overcome the references of record for at least the reasons presented above and Applicants respectfully request these rejections also be withdrawn.

It is believed that this case is in condition for allowance and reconsideration thereof and early issuance is respectfully requested. If it is felt that an interview would expedite prosecution of this application, please do not hesitate to contact Applicants' representative at the below number.

Respectfully submitted,



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